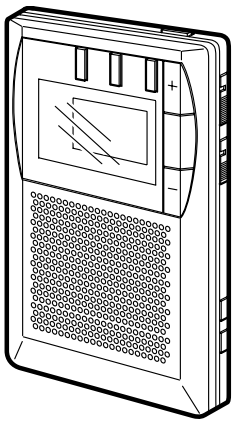
aiwa SERVICE

CR-DS800 YH1(N),YZ1(N)



SERVICE MANUAL

STEREO RADIO RECEIVER

This Service Manual is the “Revision Publishing” and replaces “Simple Manual” (S/M Code No.09-99A-336-1T1).

aiwa

S/M Code No. 09-99A-336-1R1

REVISION DATA

SPECIFICATIONS

Frequency range:

Reception area “ｴ” AM 531-1,602 kHz (9 kHz steps)

FM1, FM2 87.5-108 MHz (50 kHz steps)

Reception area “ｰ” AM531-1,629 kHz (9 kHz steps)

[YH1(N)] FM1, FM2 76.0-108 MHz

(100 kHz steps in 76-90 MHz, 50 kHz steps in 90-108 MHz)

Reception area “ﾋ” AM530-1,710 kHz (10 kHz steps)

FM1, FM2 87.5P-108.1 MHz (200 kHz steps)

Maximum output: 85 mW (EIAJ 8 ohms)

8 mW + 8 mW (EIAJ 32 ohms)

Battery life: Using an alkaline battery LR03

Band	Headphones	Speaker
AM	Approx. 43 hours	Approx. 23 hours
FM	Approx. 29 hours	Approx. 19 hours

Using a manganese battery R03

Band	Headphones	Speaker
AM	Approx. 21 hours	Approx. 11 hours
FM	Approx. 14 hours	Approx. 9 hours

Power sources: DC 1.5 V using an R03 (size AAA) dry cell battery

Maximum dimensions: 54.5 (W) x 85.5 (H) x 15.4 (D) mm (2 $^{1}/_{4}$ x 3 $^{3}/_{8}$ x $^{5}/_{8}$ in.)

Weight: Approx. 52 g (1.8 oz.) excluding battery

• Design and specifications are subject to change without notice.

ACCESSORIES LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8A-RC2-905-010		IB,YH(ECK)C<YH>
1	8A-RC2-907-010		IB,YZ(EGF)C<YZ>
1	8A-RC2-908-010		IB,YZ(SID)C<YZ>
1	8A-RC2-909-010		IB,YZ(PHNCZ)C<YZ>
2	8A-RC2-801-010		CASE,CARRING

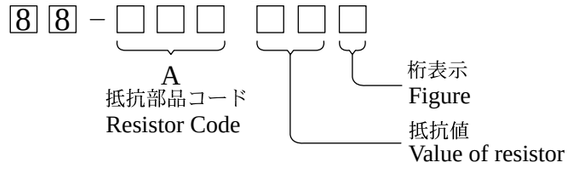
ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

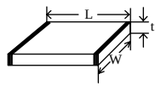
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A21-260-110		C-IC,UPD17934A-514
	87-A20-745-040		C-IC,TA2030FN
	87-A20-076-040		C-IC,TA2022AFN
	87-A20-840-040		C-IC,NJM2076M
	87-A20-124-080		IC, TK11823
	87-A20-819-040		C-IC,S-80811ANNP
	87-A21-050-040		C-IC,S-80810ANNP
	87-A21-237-040		C-IC,S-81211SG-QA-X
TRANSISTOR			
	89-508-824-080		CHIP FET,2SK882Y
	87-026-470-080		TR,HN1C03FB(0.3W)
	89-508-804-080		CHIP FET 2SK880Y
	87-026-425-080		C-TR,RN2307
	89-115-884-080		CHIP -TRANSISTER 2SA1588Y
	89-342-153-080		TR,2SC4215O
	89-113-625-080		TR,2SA1362GR(120MHZ,0.
	89-341-165-080		CHIP TRANSISTOR 2SC4116GR
	87-A30-314-040		C-TR,BC847CT116
MAIN C.B			
BPF101	87-008-406-080		BPF GFMB1<YZ>
BPF101	87-030-141-080		BPF GFWB1<YH>
C1	87-A10-263-080		C-CAP,U 0.1-16ZF
C2	87-A10-263-080		C-CAP,U 0.1-16ZF
C3	87-A10-031-080		C-CAP,U 0.01-25 KB
C4	87-A10-263-080		C-CAP,U 0.1-16ZF
C5	87-012-274-080		CHIP CAP,U 1000P-50B
C6	87-012-268-080		C-CAP,U 330P-50 B
C7	87-A10-031-080		C-CAP,U 0.01-25 KB
C8	87-A10-263-080		C-CAP,U 0.1-16 Z F
C9	87-A10-263-080		C-CAP,U 0.1-16ZF
C10	87-A10-263-080		C-CAP,U 0.1-16ZF
C102	87-012-275-080		C-CAP,U 1200P-50 B
C103	87-A10-031-080		C-CAP,U 0.01-25 KB
C104	87-012-174-080		CAP CHIP CERA SS 12P CHJ
C106	87-012-157-080		C-CAP,S 330P-50 CH
C107	87-012-172-080		CAPACITOR CHIP U 10P CH
C108	87-A10-031-080		C-CAP,U 0.01-25 KB
C110	87-010-149-080		C-CAP,S 5P-50 CH
C114	87-010-173-080		C-CAP,S 390P-50 SL
C116	87-A10-031-080		C-CAP,U 0.01-25 KB
C118	87-012-193-080		C-CAP,U 82P-50 CH
C119	87-010-805-080		CAP, S 1-16
C120	87-A10-263-080		C-CAP,U 0.1-16ZF
C121	87-012-274-080		CHIP CAP,U 1000P-50B
C122	87-A10-047-080		C-CAP,U 1-10 Z F
C123	87-A10-263-080		C-CAP,U 0.1-16ZF
C124	87-A10-263-080		C-CAP,U 0.1-16ZF
C125	87-A10-110-080		C-CAP,U 820P-50JB
C126	87-A10-263-080		C-CAP,U 0.1-16ZF
C127	87-010-829-080		CAP, U 0.047-16
C128	87-012-284-080		C-CAP,U 6800P-50 KB
C129	87-012-278-080		C-CAP,U 2200P-50 KB
C130	87-016-396-080		C-CAP,U 0.22-16F
C131	87-010-805-080		CAP, S 1-16
C133	87-010-787-080		CAP, U 0.022-25
C134	87-012-191-080		CHIP CAP 68 PF
C135	87-012-274-080		CHIP CAP,U 1000P-50B
C136	87-A10-263-080		C-CAP,U 0.1-16ZF
C137	87-010-574-080		C-CAP,S 470P-50 UJ
C138	87-012-150-080		C-CAP,S 20P-50 CH
C139	87-012-172-080		CAPACITOR CHIP U 10P CH
C140	87-A10-031-080		C-CAP,U 0.01-25 KB
C141	87-A10-703-080		C-CAP,TN 47-2.5 M A
C142	87-A10-466-080		C-CAP,TN 3.3-6.3 A TCF
C143	87-A10-110-080		C-CAP,U 820P-50JB
C144	87-012-182-080		C-CAP,U 27P-50 CH
C145	87-A10-031-080		C-CAP,U 0.01-25 KB
C146	87-012-188-080		C-CAP,U 47P-50 J CH
C153	87-016-526-080		C-CAP,S 0.47-16 BK
C154	87-016-526-080		C-CAP,S 0.47-16 BK
C155	87-A10-031-080		C-CAP,U 0.01-25 KB
C156	87-010-805-080		CAP, S 1-16
C157	87-016-396-080		C-CAP,U 0.22-16F
C158	87-012-282-080		CAP, U 4700P-50
C159	87-A10-263-080		C-CAP,U 0.1-16ZF
C160	87-012-282-080		CAP, U 4700P-50
C161	87-012-199-080		CAP 220P
C162	87-010-785-080		C-CAP,U0.015-25BK
C165	87-A10-031-080		C-CAP,U 0.01-25 KB
C166	87-A10-706-080		C-CAP,U 0.33U-16 F Z
C167	87-A10-263-080		C-CAP,U 0.1-16ZF
C169	87-A10-706-080		C-CAP,U 0.33U-16 F Z
C170	87-A10-263-080		C-CAP,U 0.1-16ZF
C171	87-A10-263-080		C-CAP,U 0.1-16ZF
C201	87-012-174-080		CAP CHIP CERA SS 12P CHJ
C202	87-012-176-080		CAP 15P
C203	87-B30-196-010		CAP,E 0.6-2.5V(PAS920S-VL3T)
C204	87-A10-706-080		C-CAP,U 0.33U-16 F Z
C205	87-A10-706-080		C-CAP,U 0.33U-16 F Z
C206	87-A10-706-080		C-CAP,U 0.33U-16 F Z
C207	87-A10-706-080		C-CAP,U 0.33U-16 F Z
C208	87-A10-706-080		C-CAP,U 0.33U-16 F Z
C209	87-A10-263-080		C-CAP,U 0.1-16ZF
C210	87-A10-031-080		C-CAP,U 0.01-25 KB
C211	87-A10-031-080		C-CAP,U 0.01-25 KB
C212	87-A10-031-080		C-CAP,U 0.01-25 KB
C213	87-A10-031-080		C-CAP,U 0.01-25 KB
C215	87-012-274-080		CHIP CAP,U 1000P-50B
C216	87-016-437-080		C-CAP,TN 100-4(C)
C217	87-010-802-080		C-CAP,TN2.2-4(A2)
C218	87-A10-422-080		C-CAP,TN 10-4 A TCF
C219	87-A10-263-080		C-CAP,U 0.1-16ZF
C251	87-010-800-080		C-CAP TN 1-10(A2)
C252	87-A10-031-080		C-CAP,U 0.01-25 KB
C253	87-A10-251-080		C-CAP,TN 33-2.5 A
C254	87-010-805-080		CAP, S 1-16
C255	87-012-167-080		C-CAP,U 5P-50 CH
C256	87-012-337-080		C-CAP,U 56P-50 CH
C257	87-012-170-080		C-CAP,U 8P-50 CH
C258	87-A10-263-080		C-CAP,U 0.1-16ZF
CF103	87-A90-456-080		C-FLTR,PFWCC 450J3
D101	87-017-925-070		C-VARI CAP,KV1460
D102	87-017-925-070		C-VARI CAP,KV1460
D110	87-A40-462-040		C-VARI-CAP,SVC347(S)
HJ501	87-A60-760-080		JACK,3.5 ST W/O SW
IFT101	87-008-420-080		COIL IFT 450K MW
L101	87-005-564-080		CHIP-COIL S2.2MH
L102	8A-RC2-603-010		COIL,FM RF
L104	8A-RC2-604-010		COIL,FM OSC
L110	87-005-375-080		C-COIL,100UH J NL322522
L112	8Z-RC3-608-010		BAR-ANT,MW
L151	87-003-243-080		C-COIL,S 10UH
L152	87-003-243-080		C-COIL,S 10UH
L153	87-003-231-080		C-COIL 1UH
L154	87-003-234-080		C-COIL,2125 0.22UH K MLF201
LCD201	8A-RC2-601-010		LCD,DS800
L202	87-003-246-080		C-COIL,33UH
L251	87-A50-037-080		C-COIL,D-D 5CDLU
L252	87-003-246-080		C-COIL,33UH
S201	87-A91-290-080		C-SW,TACT SKQDAB
S202	87-A91-334-080		C-SW,TACT SKQTLB
S203	87-A91-290-080		C-SW,TACT SKQDAB
S204	87-A91-290-080		C-SW,TACT SKQDAB
S205	87-A91-290-080		C-SW,TACT SKQDAB
S207	87-A91-290-080		C-SW,TACT SKQDAB
S208	87-A91-290-080		C-SW,TACT SKQDAB
S209	87-A91-334-080		C-SW,TACT SKQTLB
S210	87-A91-289-080		C-SW,TACT SKQMAM
S211	87-A91-334-080		C-SW,TACT SKQTLB
S212	87-A90-871-080		C-SW,SL 1-1-2 SSSS810701
S501	87-A91-446-010		SW,SL 2-2-4 ALZ
S502	87-A91-304-080		C-SW,SL 2-2-2 SSSS822-A-3B
SFR101	87-A91-466-040		C-SFR,K 22K H RH03AEC
TC101	87-A90-688-080		C-TRIMMER,30P CTZ2S-30C
TC102	87-A90-687-080		C-TRIMMER,20P CTZ2S-20C
VR151	87-A91-299-010		VR,RTRY 50KCX2 H GPHN
X201	87-030-349-010		VIB,XTAL 75K

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

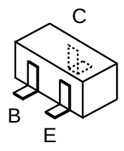
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



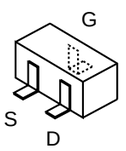
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード Resistor Code : A
1/16W	1005	±5%	CJ		1.0	0.5	0.35	104
1/16W	1608	±5%	CJ		1.6	0.8	0.45	108
1/10W	2125	±5%	CJ		2	1.25	0.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.55	128

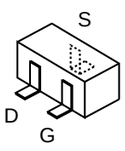
TRANSISTOR ILLUSTRATION



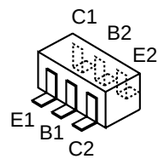
2SA1362
2SA1588
2SC3326
2SC4116
2SC4215
BC847CT116
RN2307



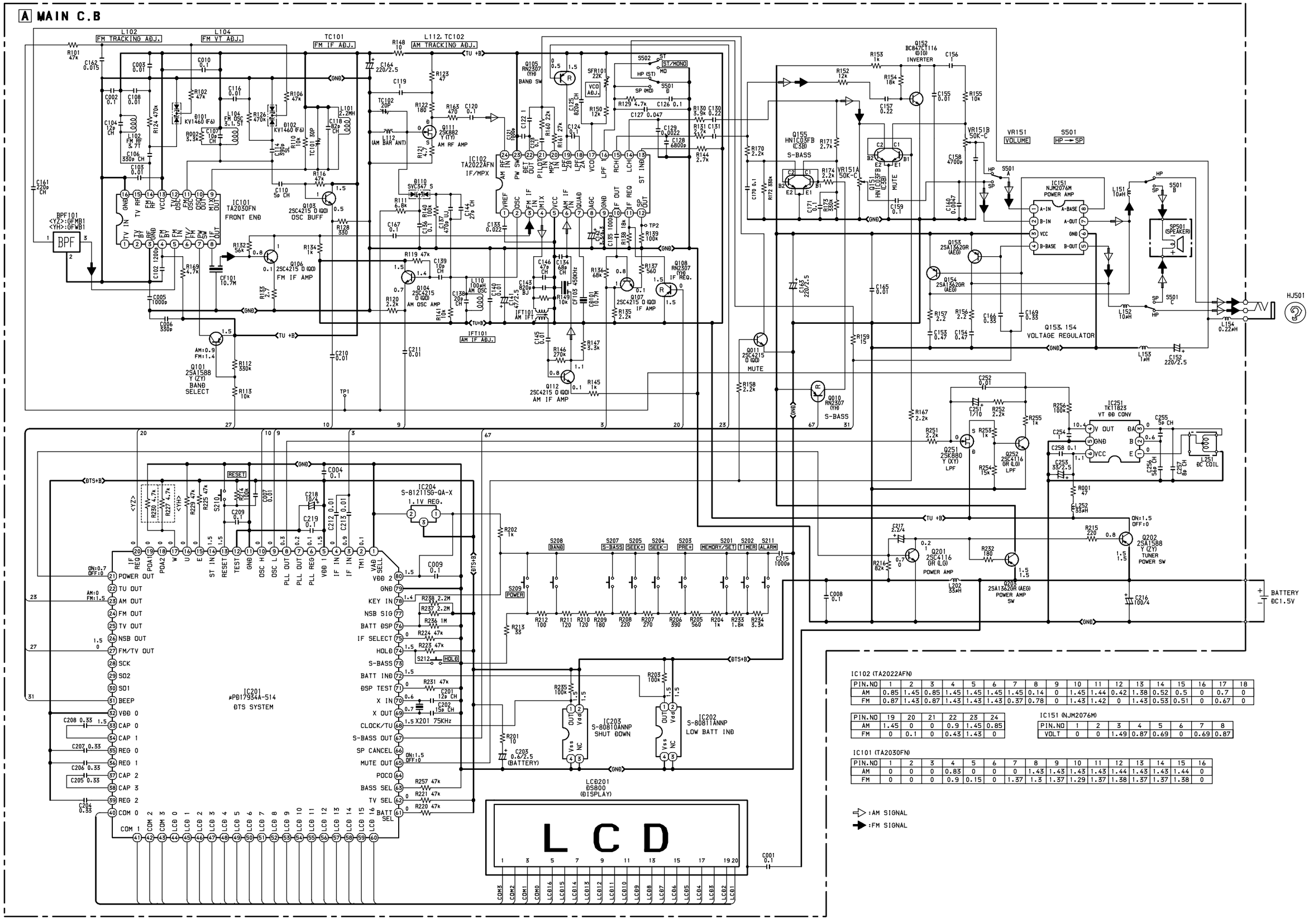
2SK880



2SK882



HN1C03F



IC102 (TA2022AFN)

PIN.NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
AM	0.85	1.45	0.85	1.45	1.45	1.45	1.45	0.14	0	1.45	1.44	0.42	1.38	0.52	0.5	0	0.7	0
FM	0.87	1.43	0.87	1.43	1.43	1.43	0.37	0.78	0	1.43	1.42	0	1.43	0.53	0.51	0	0.67	0

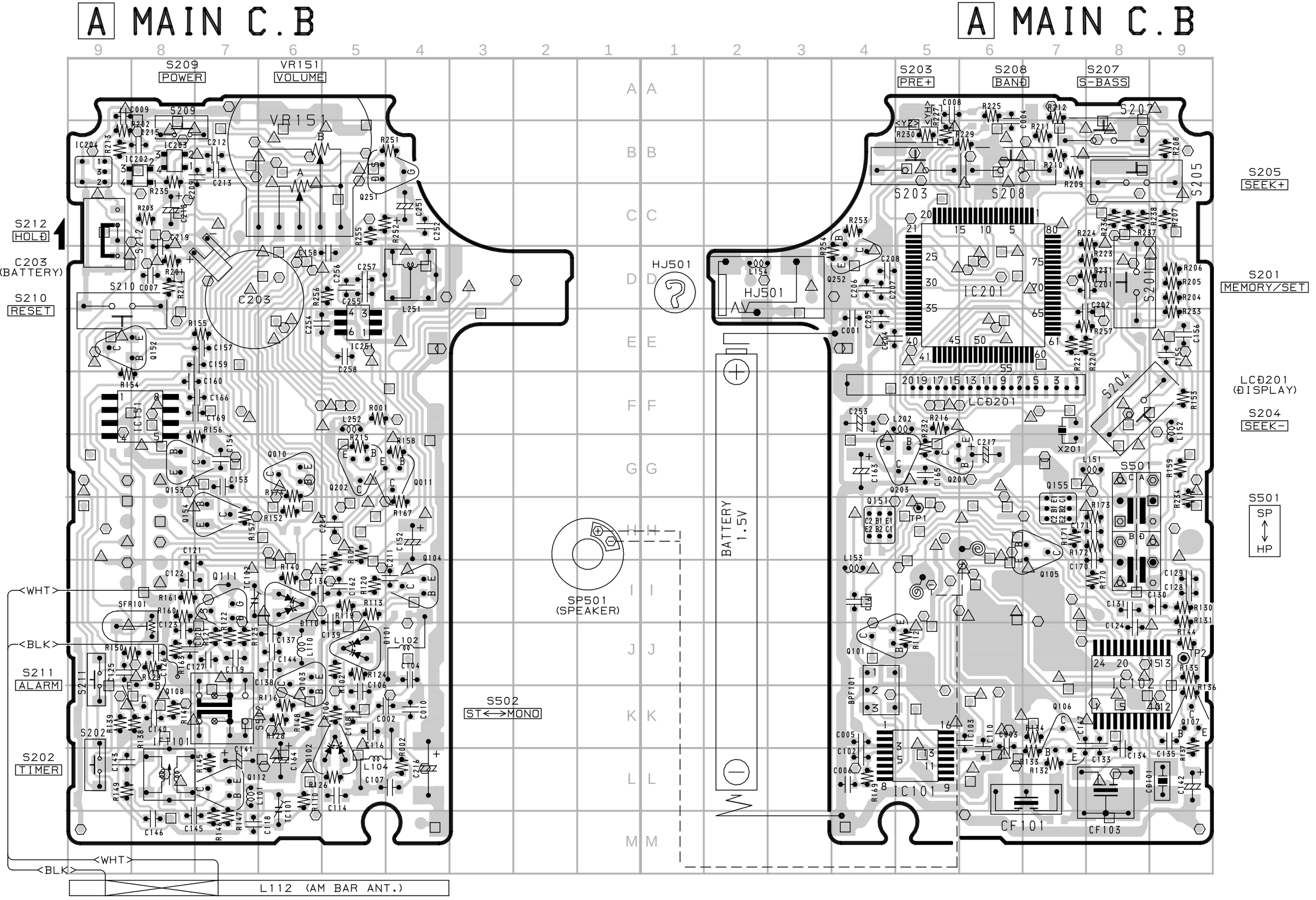
PIN.NO	19	20	21	22	23	24
AM	1.45	0	0	0.9	1.45	0.85
FM	0	0.1	0	0.43	1.43	0

IC151 (NJM2076M)

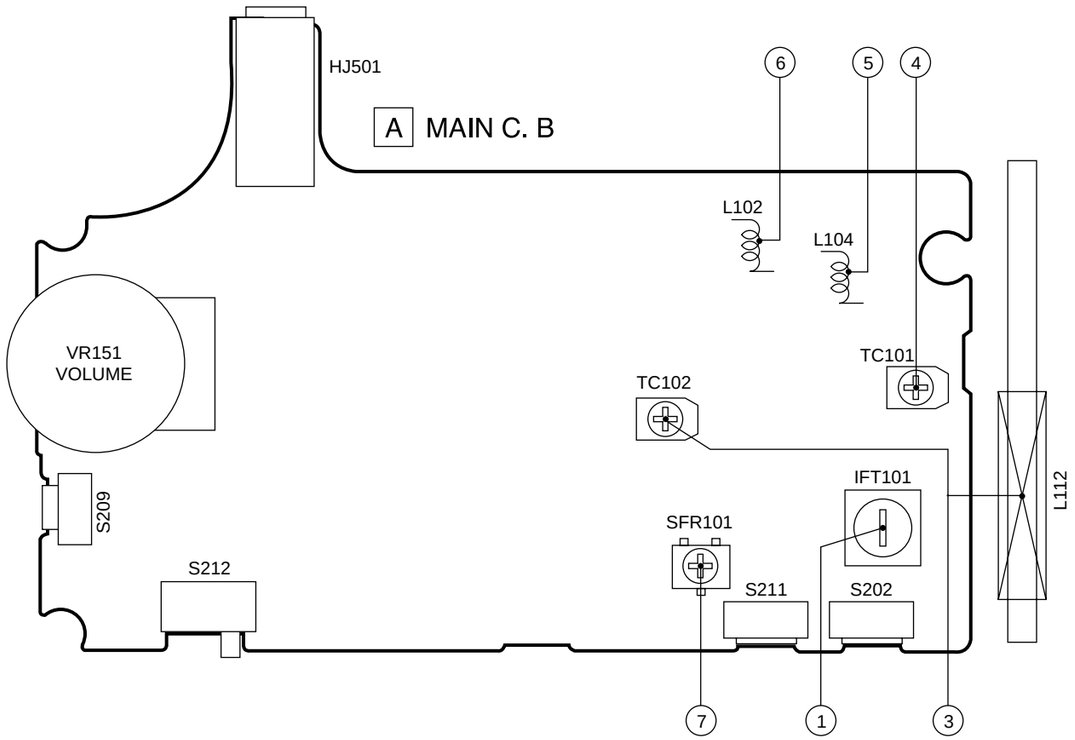
PIN.NO	1	2	3	4	5	6	7	8
VOLT	0	0	1.49	0.87	0.69	0	0.69	0.87

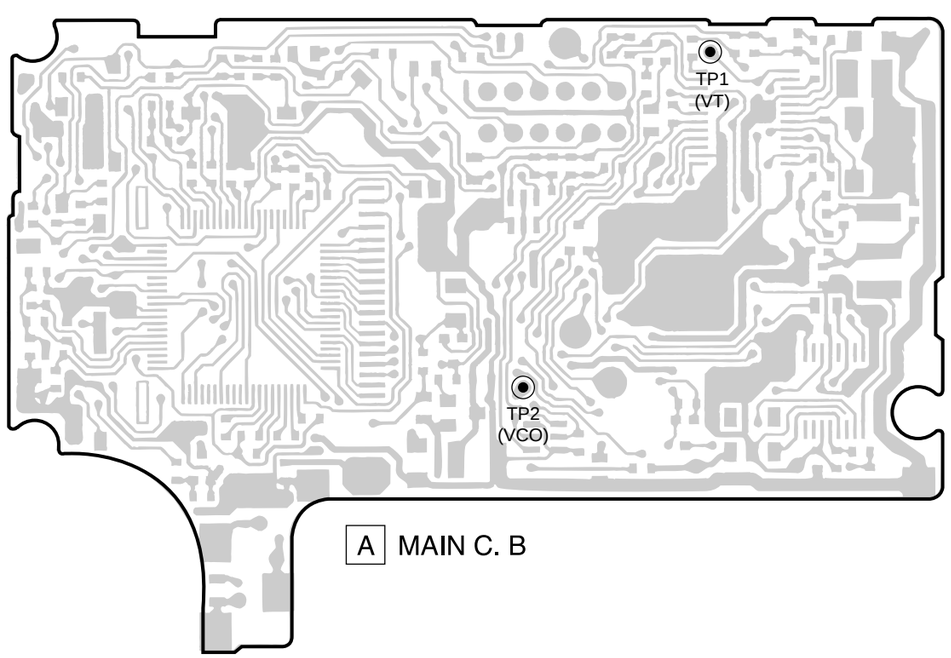
IC101 (TA2030FN)

PIN.NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AM	0	0	0	0.83	0	0	0	1.43	1.43	1.43	1.43	1.44	1.43	1.43	1.44	0
FM	0	0	0	0.9	0.15	0	1.37	1.3	1.37	1.29	1.37	1.38	1.37	1.37	1.38	0


A MAIN C.B
A MAIN C.B
S209 POWER
VR151 VOLUME
S203 PRE+
S208 BAND
S207 S-BASS
S212 HOLD
C203 (BATTERY)
S210 RESET
S211 ALARM
S202 TIMER
S205 SEEK+
S201 MEMORY/SET
LCD201 (DISPLAY)
S204 SEEK-
S501 SP HP
HJ501
SP501 (SPEAKER)
S502 ST⟷MONO
BATTERY 1.5V
<WHT>
<BLK>
L112 (AM BAR ANT.)
IC201
IC101
IC102
LCD201
CF101
CF103
X201
S501

ADJUSTMENT





1. AM IF Adjustment
   IFT101 ..... 450 kHz

2. AM VT Check
   Setting: • Test point: TP1 (VT)
   Check: AM 531 kHz (YZ)/AM 530 kHz (YH) ..... 0.9 ~ 1.4 V
   AM 1710 kHz ..... Less than 8.2 V

3. AM Tracking Adjustment
   L112 ..... 630 kHz
   TC102 ..... 1440 kHz

4. FM IF Adjustment
   TC101 ..... 10.7 MHz

5. FM VT Adjustment
   Settings: • Test point: TP1 (VT)
   • Adjustment location: L104
   Method: Set to FM 87.5 MHz and adjust L104 so that test point becomes 2.3 ± 0.1 V.
   Check: FM 108.0 MHz (YZ)/FM 108.1 MHz (YH)
   ..... Less than 5.5 V
   FM 76.0 MHz (YH) ..... More than 1.0 V

6. FM Tracking Adjustment
   L102 ..... 87.5 MHz

7. VCO Frequency Adjustment
   SFR101 ..... 19 kHz ± 100Hz

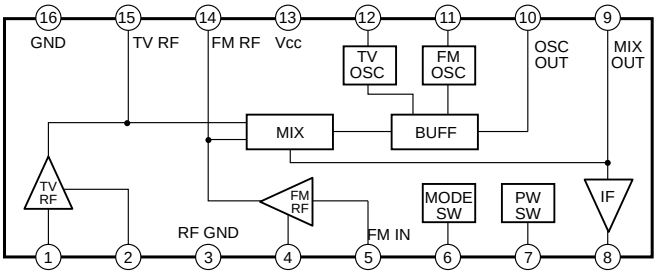
PRACTICAL SERVICE FIGURE

<FM SECTION>	
IHF Sensitivity:	Less than 16 dB
(IHF, THD 3%)	(87.5 MHz)
	Less than 15 dB
	(98.5/108.0 MHz)
Signal to noise ratio:	More than 50 dB
	(87.5/98.5/108.0 MHz)
Distortion:	Less than 2.0%
(Input - 54 dB)	(98.5 MHz)
Stereo separation:	More than 20 dB
	(98.5 MHz)
Intermediate frequency:	10.7 MHz

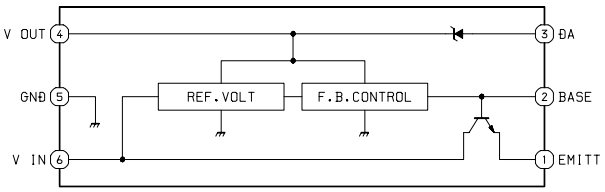
<AM SECTION>	
Sensitivity:	Less than 51 dB
(S/N 10 dB)	(630 kHz)
	Less than 48 dB
	(999 kHz)
	Less than 45 dB
	(1440 kHz)
Signal to noise ratio:	More than 31 dB
(Input - 74 dB)	(603 kHz)
	More than 33 dB
	(999/1440 kHz)
Distortion:	Less than 4.0%
(Input - 74 dB)	(999 kHz)
Intermediate frequency:	450 kHz

IC BLOCK DIAGRAM

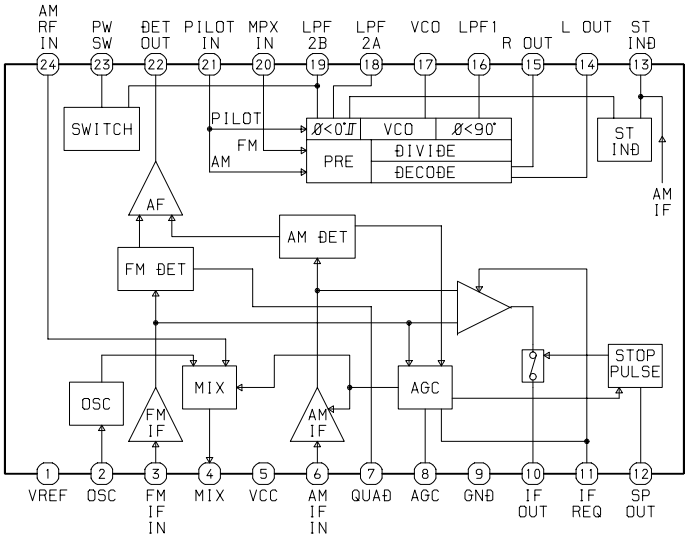
IC, TA2030FN



IC, TK11823



IC, TA2022AFN



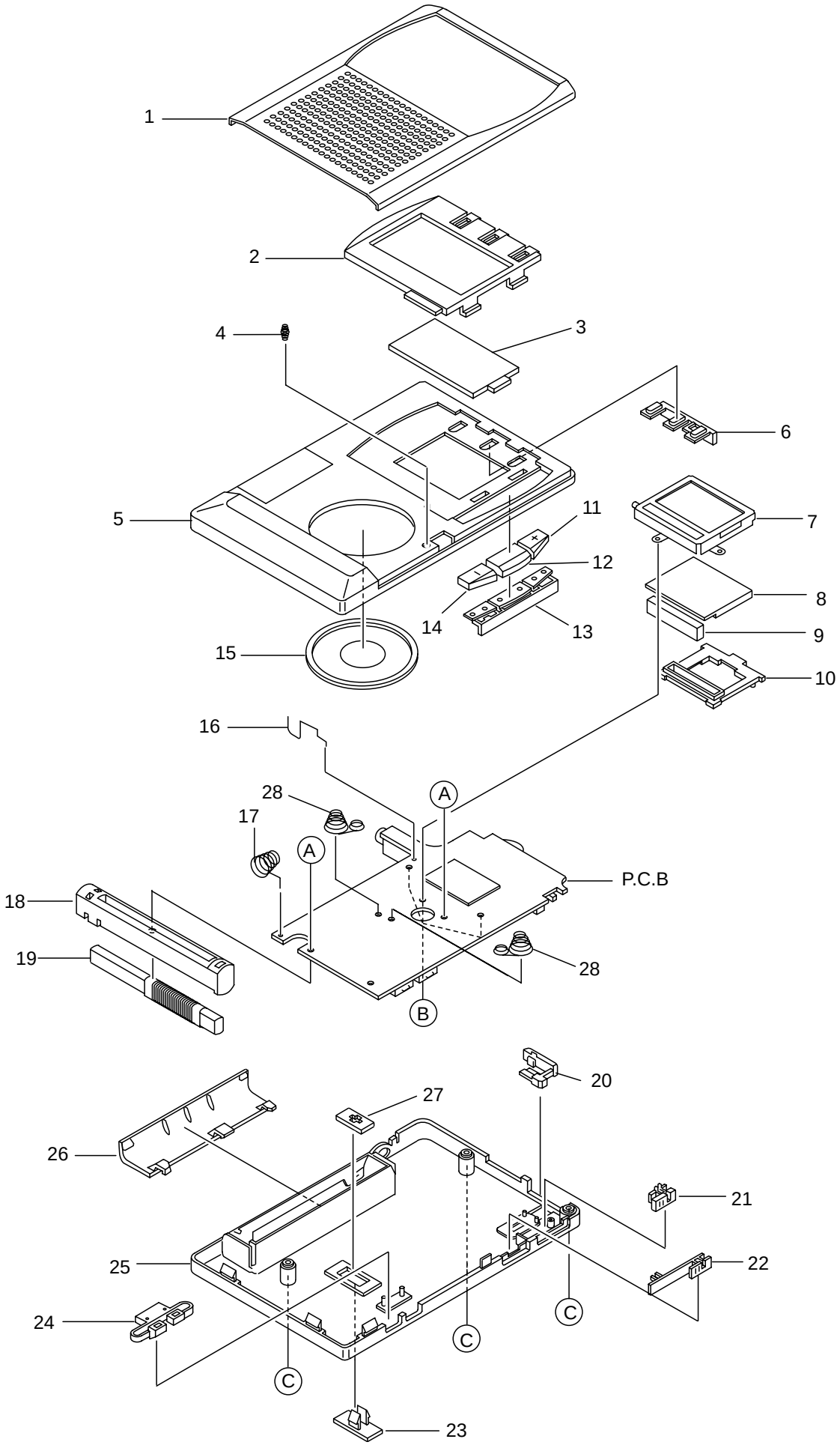
IC DESCRIPTION

IC, UPD17934A-514

Pin No.	Pin Name	I/O	Description
1	VAD SELL	I	"H" is input when power voltage is 3.0 V. "L" is input when power voltage is 1.5 V.
2	TM1	I	Not used.
3	IF IN	I	IF counter input.
4			
5	VDD1	—	Power suply.
6	PLL REG	—	PLL regulator pin.
7	PLL OUT	O	PLL charge pomp output.
8			
9	OSC L	I	PLL local oscillator (L) input
10	OSC H	I	PLL local oscillator (H) input
11	GND	—	GND
12	TEST	—	Not used.
13	RESET	I	Reset input.
14	ST IN	I	Stereo indicator input
15	E	I	Destination setting pin. "L" input for Europe.
16	U	I	Destination setting pin. "L" input for US.
17	W	I	TV/WEATHER select pin for WIDE specifications
18	POA0	—	Not used.
19	POA1	—	Not used.
20	IF REQ	O	Outputs "H" when IF output is requested.
21	POWER OUT	O	Outputs "H" when tuner, alarm, or timer is turned on.
22	TU OUT	O	Outputs "H" when tuner is turned on.
23	AM OUT	O	Outputs "H" in AM band.
24	FM OUT	O	Outputs "H" in FM band.
25	TV OUT	O	Outputs "H" in TV band.
26	NSB OUT	O	Outputs "H" in NSB band.
27	FM/TV OUT	O	Outputs "H" in FM/TV band.
28	SCK	—	Not used.
29	SO2	—	Not used.
30	SO1	—	Not used.
31	BEEP	O	Beep output
32	VDD0	—	Power supply.
33	CAP0	—	LCD condenser connect pin
34	CAP1	—	
35	REG0	—	LCD regulator pin
36	REG1	—	
37	CAP2	—	LCD condenser connect pin
38	CAP3	—	
39	REG2	—	LCD regulator pin
40	COM0	O	LCD common output
41	COM1	O	

Pin No.	Pin Name	I/O	Description
42	COM2	O	LCD common output
43	COM3	O	
44	LCD0	O	
45	LCD1	O	LCD segment output
46	LCD2	O	
47	LCD3	O	
48	LCD4	O	
49	LCD5	O	
50	LCD6	O	
51	LCD7	O	
52	LCD8	O	
53	LCD9	O	
54	LCD10	O	
55	LCD11	O	
56	LCD12	O	
57	LCD13	O	
58	LCD14	O	
59	LCD15	O	
60	LCD16	O	
61	BATT SEL	I	Voltage detection method select pin. "H": Voltage is detected by the input to pin 76. "L": Voltage is detected by the input to pin 64.
62	TV SEL	I	TV canceling pin. "H": TV not provided, "L": TV provided.
63	BASS SEL	I	S-BASS key select pin. "H": Switched by input to S-BASS port. "L": Switched by A/D key input.
64	POC0	O	Not used
65	MUTE OUT	O	Outputs "H" with MUTE.
66	SP CANCEL	O	Outputs "H" to cancel speaker output.
67	S-BASS OUT	O	Outputs "H" with S-BASS ON.
68	CLOCK/TU	I	Clock/frequency display switching input. "H": Frequency display.
69	Xout	—	For the connection of crystal oscillator
70	Xin	I	For the connection of crystal oscillator
71	DSP TEST	I/O	All indicators light when "H" is input.
72	BATT IND	O	BT3 indicator lights when "H" is input.
73	S-BASS	I	S-BASS ON with "H" input
74	HOLD	I	No A/D key input is accepted when "H" is input.
75	IF SELECT	I	IF frequency select pin. "H": 10.7 MHz, "L": 10.5 MHz
76	BATT DSP	I	A/D input for battery remaining lever display
77	NSB SIG	I	A/D input for discriminating NSB signal level.
78	KEY IN	I	A/D KEY input
79	GND	—	GND
80	VDD2	—	Power supply

MECHANICAL EXPLODED VIEW 1/1



MECHANICAL MAIN PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8A-RC2-004-010		COVER, FRONT
2	8Z-RC3-005-010		PANEL,FRONT
3	8A-RC2-011-010		WINDOW,LCD
4	8Z-RC3-221-010		SPR,FRONT
5	8A-RC2-003-010		CABI,FRONT
6	8Z-RC3-006-010		BTN,BAND/PSET/ AREA
7	8Z-RC3-203-010		COVER, LCD
8	8A-RC2-601-010		LCD,S800
9	8Z-RC3-224-010		CONN, RUBBER LCD
10	8Z-RC3-204-010		HLDR,LCD
11	8Z-RC3-008-010		BTN,TUN(+)
12	8Z-RC3-010-010		BTN,MEMO
13	8Z-RC3-201-010		HLDR,TUN
14	8Z-RC3-009-010		BTN,TUN(-)
15	84-TM1-635-010		SP,DIA36
16	8Z-RC3-205-010		BAT-CONTACT,(+)
17	8Z-RC3-206-010		BAT-CONTACT,(-)
18	8Z-RC3-217-010		HLDR,AM ANT
19	8Z-RC3-608-110		BAR,ANT MW
20	8A-RC2-007-010		BTN,POWER
21	8A-RC2-008-010		KNOB,SL HOLD
22	8A-RC2-002-010		KNOB,SL SPEK/EAR
23	8A-RC2-012-010		KNOB,SL ST/MON
24	8A-RC2-006-010		BTN,ALARM/ TIMER
25	8A-RC2-001-010		CABI,REAR
26	8A-RC2-005-010		LID,BATT
27	8Z-RCC-214-010		HLDR,SPEK/EAR
28	8Z-RC3-223-010		SPR,PWB MAKI
A	87-B10-253-010		VT2+1.4-4 W/O ZN
B	87-B10-252-010		VT2+1.4-2 W/O ZN
C	87-B10-282-010		VT2+1.4-6 W/O BK

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

サービス技術ニュース	
番号	連絡内容
G一　一	
G一　一	
G一　一	

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Printed in Singapore